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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,775	03/17/2005	Frank Alt	09086-00219-US	5722

23416 7590 09/08/2006

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EXAMINER	
CHOI, LING SIU	

ART UNIT	PAPER NUMBER
1713	

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/523,775	ALT ET AL.	
	Examiner	Art Unit	
	Ling-Siu Choi	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8-16 and 18-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-6,8-16,18-20 and 22* is/are allowed.

6)☒ Claim(s) *23 and 24* is/are rejected.

7)☒ Claim(s) *21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/18/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The request filed on September 28, 1999 for a Request for Continued examination (RCE) under 37 CFR 1.17(e) based on parent Application No. 10/523,775 is acceptable and the RCE has been established.

2. This Office action is in response to the Amendment filed July 18, 2006. Claims 7 and 17 were canceled and Claims 23-24 have been added. Claims 1-6, 8-16, and 18-24 are now pending.

Claim Objections

3. Claim 21 is objected to because of the following informalities: (a) Claim 21, line 6, "an additional component (d) a compound" is suggested to be changed to --an additional component (d) **comprising** a compound--and (b) Claim 21, lines 9-11, "**or** cycloalkyl having from 4 to 8 carbon atoms in the ring and from 0 to 6 substituents R' on the ring, aryl having from 6 to 10 carbon atoms in the aromatic and from 0 to 6 substituents R' on the aromatic" is suggested to be changed to --cycloalkyl having from 4 to 8 carbon atoms in the ring and from 0 to 6 substituents R' on the ring, **or** aryl having from 6 to 10 carbon atoms in the aromatic and from 0 to 6 substituents R' on the aromatic--.

Appropriate correction is required.

Claim Analysis

4. Summary of Claim 23:

A **Ziegler catalyst** comprising the reaction product of	
A	a magnesium alkoxide
B	a titanium compound
C	a chlorine-containing organoaluminum compound
D	an additional compound comprising a compound of **M-R_x** with R being an organic radical; M being an element of main group IV of the periodic Table; x being an integer from 1 to 4

Claim Rejections - 35 USC § 102

5. **The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:**

> **A person shall be entitled to a patent unless –**
> **(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.**

6. Claims 23-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishimura et al. [US 6,320,003 B1 (EP 0 522 424 A2)].

Nishimura et al. disclose a catalyst system for olefin polymerization, comprising (A) a solid catalyst component and (B) an organoaluminum compound, the solid

catalyst component being prepared by reacting a homogeneous solution containing an oxygen-containing organic compound of magnesium, at least one zirconium compound, and at least one silicon compound with at least one organoaluminum halide compound to obtain a solid product and further reacting with at least one halogen-containing compound of titanium, wherein the oxygen-containing organic compound of magnesium can be a magnesium alkoxide; the silicon compound is tetramethoxysilane or tetraethoxysilane; the organoaluminum halide compound is i-butylaluminum dichloride (col. 3, lines 53-67; claims 1-2). Thus, the present claims are anticipated by the disclosure of Nishimura et al.

7. Claims 23-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Naito et al. (US 6,337,376 B1).

Naito et al. disclose a solid catalyst component prepared by reacting a homogenous solution consisting of (a) an oxygen-containing organic compounds of magnesium; (b) at least one oxygen-containimng organic compound of titanium, and (c) at least one silicon compound with (d) at least one first organoaluminum halide, (e) at least one second organoaluminum halide, (f) at least one organometallic compound of metals of Groups Ia, IIa, IIb, IIIb, and IVb of the Periodic Table, and (g) at least one α-olefin, wherein the oxygen-containing organic compounds of magnesium can be a magnesium alkoxide; the silicon compound can be tetramethoxysilane or tetraethoxysilane (col. 5, lines 58-61; claims 1 and 3). Thus, the present claims are anticipated by the disclosure of Naito et al.

8. Claims 23-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Kimura et al. (US 4,255,544).

Kimura et al. disclose a catalyst comprising (A) the reaction product of a magnesium compound and titanium halide and (B) an organic aluminum compound, wherein the component A is prepared by reacting magnesium dialkoxide with a halogen-containing silicon compound and then reacting the solid material with titanium halide in the presence of an alkoxy-containing silicon compound, wherein the organic aluminum compound can be diethylaluminum monochloride, diisopropylaluminum monochloride, diisobutylaluminum monochloridethe and alkoxy-containing silicon compound can be tetramethoxysilane or tetraethoxysilane (abstract; col. 3, lines 58-59; col. 5, lines 35-39). Thus, the present claims are anticipated by the disclosure of Kimura et al.

Allowable Subject Matter

9. Claims 1-6, 8-16, and 18-22 are allowable over the closest reference: Nishimura et al. [US 6,320,003 B1 (EP 0 522 424 A2)], Buehler et al. (US 5,610,246), and Kataoka et al. (JP 05-301921 A).

Summary of Claim 1:

A Ziegler catalyst consisting essentially of the reaction product of	
A	a magnesium alkoxide
B	a titanium compound
C	a chlorine-containing organoaluminum compound
D	an additional compound comprising a compound of **M-R_x** with R being halogen and M being an element of main group IV of the periodic Table

Summary of Claim 21:

A Ziegler catalyst consisting the reaction product of	
A	a magnesium alkoxide
B	a titanium compound
C	an organometallic compound
D	an additional compound comprising a compound of **M-R_x** with R being halogen and alkyl having from 1 to 10 carbon atoms, oxyalkyl having from 1 to 10 carbon atoms, cycloalkyl having from 4 to 8 carbon atoms in the ring and from 0 to 6 substituents R' on the ring, or aryl having from 6 to 10 carbon atoms in the aromatic and from 0 to 6 substituents R' on the aromatic, wherein R' is a halogen or an alkyl radical having from 1 to 4 carbon atoms or an OH group or an NO_2 group or an oxyalkyl radical having from 1 to 4 carbon atoms M being an element of main group IV of the periodic Table x is an integer from 1-4

Nishimura et al. disclose a catalyst system for olefin polymerization, comprising a **solid catalyst component** being prepared by reacting a homogeneous solution containing (i) an oxygen-containing organic compound of magnesium, (ii) **at least one**

zirconium compound, and (iii) at least one silicon compound with (iv) at least one organoaluminum halide compound to obtain a solid product and further reacting with (v) at least one halogen-containing compound of titanium, wherein the oxygen-containing organic compound of magnesium can be a magnesium alkoxide and the silicon compound can be silicon tetrachloride or silicon tetrabromide (col. 2, lines 29-52; col. 3, lines 53-67; col. 5, line 53-55). However, Nishimura et al. do not teach or fairly suggest **a Ziegler catalyst component** consisting essentially of (1) a magnesium alkoxide, (2) a titanium compound, (3) a chlorine-containing organometallic compound , and (4) a compound of M-R_x with R being halogen and M being an element of main group IV of the periodic Table.

Buehler et al. disclose a catalyst system for olefin polymerization, comprising a **catalyst component** comprising the product prepared by the contact of a component obtained by contacting (i) silica with (ii) 2-methyl pentyloxy magnesium chloride; and then with (iii) silicon tetrachloride; (iv) trichlorosilane [SiH_rX_s with r and s = 1-3]; (v) titanium tetracresylate; and (vi) titanium tetrachloride (claim 1). However, Buehler et al. do not teach or fairly suggest a **Ziegler catalyst component** consisting essentially of (1) a magnesium alkoxide, (2) a titanium compound, (3) a chlorine-containing **organoaluminum compound** , and (4) a compound of M-R_x with R being halogen and M being an element of main group IV of the periodic Table.

Kataoka et al. disclose a **catalyst component** obtained by contacting (i) diethoxy magnesium with (ii) tetrabutoxytitanium and (iii) silicon tetrachloride and further contacting with (iv) titanium tetrachloride in the presence of (v) an aromatic

dicarboxylic acid (abstract). However, Kataoka et al. do not teach pr fairly suggest **a Ziegler catalyst component** consisting essentially of (1) a magnesium alkoxide, (2) a titanium compound, (3) a chlorine-containing **organoaluminum compound** , and (4) a compound of M-R_x with R being halogen and M being an element of main group IV of the periodic Table.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is 571-272-1098.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reach on 571-272-1114.

LING-SUI CHOI
PRIMARY EXAMINER

September 1, 2006